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Claims 1-15 and 22-32 are pending, of which claims 1, 6, 11, 23, and 28 have been amended. The amendment to claims 1, 6, 11, 23, and 28 are for clarification, and are not to overcome prior art.

Claims 1-15 and 22 are rejected under 35 U.S.C. §103(a) for obviousness over U.S. Patent No. 6,012,083 to Savitzky et al. (hereinafter, “Savitzky”), in view of U.S. Patent No. 5,956,483 to Grate et al. (hereinafter, “Grate”) (*Final Office Action* p.2). It is noted that Microsoft is the owner of both the present application and Grate.

Savitzky describes a third-party “agency” computing system that is interposed between one or more Web clients and one or more Web servers to interact with the clients and servers to transfer documents (col. 3, lines 32-37).

1 The Web clients and Web servers communicate documents via the agency with  
2 HTTP (hypertext transfer protocol) over a communication channel, such as the  
3 Internet (col. 5, lines 6-12).

4 Savitzky refers to applets, stating that "client-side code execution is limited  
5 to documents in which a server has included applets and is limited to use with  
6 applet-aware browsers" (col. 2, lines 41-43). This is essentially described in the  
7 "Background" section of Applicant's Specification and is an example of the very  
8 prior art that Applicant sought to overcome. Applets, by their very nature, raise  
9 security issues for local computer systems. In general, computer programs can be  
10 configured to cause harm to the local computer system. (*Specification* p.2, lines  
11 24-26). Applet viewers prevent harm from execution of an applet. For example,  
12 applets are prevented by an applet viewer from writing data to any persistent  
13 storage, thus protecting current contents of the persistent storage. (*Specification*  
14 p.3, lines 2-7). A disadvantage of the isolation of applets is that other computer  
15 processes executing concurrently with and independently of the applet viewer  
16 cannot communicate with the applets. (*Specification* p.3, line 28 - p.4, line 1).

17 Grate describes a method for embedding client-side function calls within  
18 HTML (hypertext markup language) content such that a user can initiate an  
19 embedded function call by clicking on a corresponding button or link while  
20 viewing a document with a standard Web browser (col. 3, lines 13-22). Web  
21 function calling protocols are embodied within client and server software  
22 components which provide for the exchange of information between Web users  
23 and online merchants over the Internet (col. 3, lines 37-42).

24 Contrary to Savitzky and Grate, Applicant claims receiving a request for a  
25 document from an applet, where the request specifies a function, the execution of

1 which performs a task that is unrelated to both generation and retrieval of any  
2 document specified in the request (*see* claim 1, for example). Applicant describes  
3 an interprocess communication mechanism in which applets can receive and  
4 respond to processing requests of other computer processes, and which can send  
5 processing requests to such other computer processes without requiring  
6 modification of applet viewers. Additionally, computer system security is  
7 preserved with interprocess communication because an applet is denied direct  
8 access to computer system resources. (*Specification* p.5, lines 24-25).

9  
10 **Claim 1** recites a method for serving remote procedure calls from an  
11 applet which executes within an applet viewer which in turn executes in a  
12 computer system that is serving said remote procedure calls, the method  
13 comprising:

14 receiving from the applet which executes in the same computer  
15 system that serves said remote procedure calls, a request for a document  
16 according to a document retrieval protocol implemented on a computer  
17 network;

18 determining that the request specifies a function which is defined  
19 within a computer process executing independently of the applet and applet  
20 viewer and which includes one or more computer instructions, execution of  
21 which performs a task which is unrelated to both generation and retrieval of  
22 any document specified in the request; and

23 executing the function in the same computer system that is executing  
24 said applet and applet viewer to thereby cause execution of the one or more  
25 computer instructions in response to receipt of the request.

26 Savitzky and/or Grate do not teach or suggest the combination of elements  
27 recited in claim 1. Both Savitzky and Grate describe client *and* server systems  
28 communicating information between the systems via the Internet. However,  
29 claim 1 recites "an applet which executes within an applet viewer which in turn

1 executes in a computer system”, “the applet which executes in the same computer  
2 system”, and “executing the function in the same computer system that is  
3 executing said applet and applet viewer.” Neither Savitzky nor Grate teach or  
4 suggest the combination of elements recited in claim 1 in a “same computer  
5 system” environment.

6 Furthermore, Savitzky does not teach or suggest both a request for a  
7 document *and* “determining that the request specifies a function..., execution of  
8 which performs a task which is unrelated to both generation and retrieval of any  
9 document specified in the request”, as recited in claim 1.

10 The Office contends that Savitzky at col. 1, line 63 through col. 2, line 43  
11 teaches the elements of claim 1 (*Final Office Action* pp.2-3). Applicant disagrees  
12 with this contention because the cited section of Savitzky describes examples of  
13 server-client communications that teach away from Applicant’s claim 1. For  
14 example, the Office cites that Savitzky describes a client sending a document  
15 request to a server for a document in the form of a URL that refers to a program on  
16 the server (*Savitzky* col. 2, lines 1-5). The Office disregards, however, that  
17 Savitzky continues the description with “[t]he server generates a document in  
18 accordance with the program and returns that document to the browser.” (*Savitzky*  
19 col. 2, lines 5-7). This is expressly contrary to the execution of a function “which  
20 performs a task which is *unrelated* to both generation and retrieval of any  
21 document specified in the request”, as recited in claim 1. To return a document to  
22 a client browser, the document request of Savitzky would be related to the  
23 retrieval of the document.

24 With regards to “applets”, Savitzky describes that “[w]ith client-side code  
25 execution, the client requests a document and the returned document contains

1 program code embedded in the document ..." which can be used for such tasks as  
2 animating graphic elements of a document (*Savitzky* col. 2, lines 25-31). This is  
3 also expressly contrary to "a request for a document" and "determining that the  
4 request specifies a function..., execution of which performs a task which is  
5 *unrelated* to both generation and retrieval of any document specified in the  
6 request", as positively recited in claim 1.

7 The Office states that it would be obvious that the applet generates the  
8 request since the request for a document is generated with client-side code  
9 execution and that "the script execution of generating the document is unrelated to  
10 the actual retrieval of the document" (*Office Action* p.3). Applicant disagrees that  
11 generating a document is unrelated to the retrieval of the document, as the Office  
12 contends. Savitzky clearly describes that "the server generates a document in  
13 accordance with the program and returns that document to the browser" (*Savitzky*  
14 col. 2, lines 5-7), and that with applets, the client requests a document and the  
15 returned document contains program code embedded in the document" (*Savitzky*  
16 col. 2, lines 25-27). Further, "client-side code execution is limited to documents  
17 in which a server has included applets" (*Savitzky* col. 2, lines 25-27).

18 Grate also does not teach both a request for a document *and* "determining  
19 that the request specifies a function..., execution of which performs a task which  
20 is unrelated to both generation and retrieval of any document specified in the  
21 request", as recited in claim 1. Grate says nothing about calling or requesting a  
22 function with a request for a document having an encoded remote procedure  
23 calling request, as claimed by the Applicant. To the contrary, Grate describes a  
24 simple, text-based format for embedding function calls within HTML documents  
25 (*Grate* col. 10, lines 45-47).

1 Accordingly, claim 1 is allowable over the Savitzky-Grate combination and  
2 Applicant respectfully requests that the §103 rejection be withdrawn.

3  
4 Claims 2-5 and 22 are allowable by virtue of their dependency upon  
5 claim 1. Additionally, claims 3 and 4 are allowable over the Savitzky-Grate  
6 combination for independent reasons.

7 Claims 3 and 4 recite “returning to the applet result data produced by  
8 execution of the function” (claim 3), and “forming a document which includes the  
9 data and sending the document to the applet” (claim 4).

10 The additional elements recited in claim 4 is that result data produced by  
11 execution of the function (of claim 1) is included into a document and the  
12 document is sent to the applet. Neither Savitzky nor Grate teaches “forming a  
13 document which includes the data”, and “sending the document to the applet”, as  
14 recited in claim 4.

15 The Office contends that Savitzky at col. 2, lines 10-14, teaches forming a  
16 document which includes the data and sending the document to the applet in a  
17 “dynamic document of server side code execution” (*Office Action* p.4). Applicant  
18 disagrees that the document of Savitzky includes *the results of a function*,  
19 execution of which performs a task which is unrelated to both generation and  
20 retrieval of any document specified in the request, as recited in the combination of  
21 claims 1, 3, and 4. Accordingly, claims 3 and 4 are allowable over the Savitzky-  
22 Grate combination.

1        **Claim 6** recites “receiving from the applet ... a request for a document”,  
2 and “determining that the request specifies a function which is defined within a  
3 computer process executing independently of the applet and applet viewer and  
4 which includes one or more selected computer instructions, execution of which  
5 performs a task which is unrelated to both generation and retrieval of any  
6 document specified in the request.”

7        As described above in the response to the rejection of claim 1, Savitzky  
8 and/or Grate do not teach or suggest both a request for a document *and*  
9 “determining that the request specifies a function which is defined within a  
10 computer process executing independently of the applet and applet viewer...,  
11 execution of which performs a task which is unrelated to both generation and  
12 retrieval of any document specified in the request”, as recited in claim 6.

13        Accordingly, claim 6 is allowable over the Savitzky-Grate combination and  
14 Applicant respectfully requests that the §103 rejection be withdrawn.

15  
16        **Claims 7-10** are allowable by virtue of their dependency upon claim 6.  
17 Additionally, claims 8 and 9 are allowable over the Savitzky-Grate combination  
18 for independent reasons.

19        **Claims 8 and 9** recite “returning to the applet result data produced by  
20 execution of the function” (claim 8), and “forming a document which includes the  
21 result data and sending the document to the applet” (claim 9).

22        As described above in the response to the rejection of claims 3 and 4,  
23 neither Savitzky nor Grate teaches “forming a document which includes the result  
24 data”, and “sending the document to the applet”, as recited in claim 9. The  
25 document of Savitzky does not include the results of a function, execution of

1 which performs a task which is unrelated to both generation and retrieval of any  
2 document specified in the request, as recited in the combination of claims 6, 8,  
3 and 9. Accordingly, claims 8 and 9 are allowable over the Savitzky-Grate  
4 combination.

5  
6 **Claim 11** recites “receiving from the applet ... a request for a document”  
7 and “determining that the request specifies a function which is defined within the  
8 computer process and which includes one or more computer instructions,  
9 execution of which performs a task which is unrelated to both generation and  
10 retrieval of any document specified in the request.”

11 As described above in the response to the rejection of claim 1, Savitzky  
12 and/or Grate do not teach or suggest both a request for a document *and*  
13 “determining that the request specifies a function which is defined within the  
14 computer process and which includes one or more computer instructions,  
15 execution of which performs a task which is unrelated to both generation and  
16 retrieval of any document specified in the request”, as recited in claim 11.

17 Accordingly, claim 11 is allowable over the Savitzky-Grate combination  
18 and Applicant respectfully requests that the §103 rejection be withdrawn.

19  
20 **Claims 12-15** are allowable by virtue of their dependency upon claim 11.  
21 Additionally, claims 13 and 14 are allowable over the Savitzky-Grate combination  
22 for independent reasons.

23 **Claims 13 and 14** recite “returning to the applet result data produced by  
24 execution of the function” (claim 13), and “forming a document which includes  
25 the result data and sending the document to the applet” (claim 14).



1 As described above in the response to the rejection of claims 3 and 4,  
2 neither Savitzky nor Grate teaches “forming a document which includes the result  
3 data”, and “sending the document to the applet”, as recited in claim 14. The  
4 document of Savitzky does not include the results of a function, execution of  
5 which performs a task which is unrelated to both generation and retrieval of any  
6 document specified in the request, as recited in the combination of claims 11, 13,  
7 and 14. Accordingly, claims 13 and 14 are allowable over the Savitzky-Grate  
8 combination.

9  
10 **Claim 23** recites a method for serving remote procedure calls  
11 received from an instruction set that executes within a first computer  
12 process, the first computer process executing in a computing device that  
13 serves the remote procedure calls, the method comprising:

14 receiving a request for a data file from the instruction set, the request  
15 according to a data file retrieval protocol;

16 determining that the request for the data file specifies a function  
17 which is defined within a second computer process executing in the  
18 computing device independently of the instruction set and of the first  
19 computer process, the function including one or more computer  
20 instructions, execution of which performs a task which is unrelated to both  
21 generation and retrieval of any data file specified in the request; and

22 executing the function in the computing device to execute the one or  
23 more computer instructions in response to receipt of the request.

24 Savitzky and/or Grate do not teach or suggest the combination of elements  
25 recited in claim 23 in a single computing device environment. Both Savitzky and  
Grate describe client *and* server systems communicating information between the  
systems via the Internet. However, claim 23 describes first and second computer  
processes, and executing a function, in the same computing device.

1 Furthermore, neither Savitzky nor Grate teach or suggest both a request for  
2 a data file *and* “determining that the request for the data file specifies a  
3 function..., execution of which performs a task which is unrelated to both  
4 generation and retrieval of any data file specified in the request”, as recited in  
5 claim 23.

6 Similarly to the rejection of claim 1, the Office contends that Savitzky  
7 teaches the elements of claim 23 (*Office Action* pp.5-6). As described above in the  
8 response to the rejection of claim 1, Savitzky describes examples of server-client  
9 communications that teach away from Applicant’s claim 23. For example,  
10 Savitzky describes a client sending a document request to a server for a document  
11 in the form of a URL that refers to a program on the server and the server  
12 generates a document in accordance with the program and returns that document  
13 to the browser (*Savitzky* col. 2, lines 1-7). This is expressly contrary to the  
14 execution of a function “which performs a task which is *unrelated* to both  
15 generation and retrieval of any data file specified in the request”, as recited in  
16 claim 23.

17 The Office states that it would be obvious “the script execution of  
18 generating the document is unrelated to the actual retrieval of the document” in  
19 Savitzky (*Office Action* p.5). Applicant disagrees that generating a document is  
20 unrelated to the retrieval of the document as the Office contends because Savitzky  
21 clearly describes that “the server generates a document in accordance with the  
22 program and returns that document to the browser” (*Savitzky* col. 2, lines 5-7), and  
23 that with applets, the client requests a document and the returned document  
24 contains program code embedded in the document” (*Savitzky* col. 2, lines 25-27).  
25 Further, “client-side code execution is limited to documents in which a server has

1 included applets” (*Savitzky* col. 2, lines 25-27).

2 Accordingly, claim 23 is allowable over the Savitzky-Grate combination  
3 and Applicant respectfully requests that the §103 rejection be withdrawn.  
4

5 **Claims 24-27** are allowable by virtue of their dependency upon claim 23.  
6 Additionally, claim 26 is allowable over the Savitzky-Grate combination for  
7 independent reasons. Claim 26 recites that “returning the result data comprises  
8 generating a document which includes the result data, and sending the document  
9 to the first computer process.”

10 As described above in the response to the rejection of claim 4, neither  
11 Savitzky nor Grate teaches “generating a document which includes the result  
12 data”, and “sending the document to the first computer process”, as recited in  
13 claim 26. The document of Savitzky does not include the result data *of a function*,  
14 execution of which performs a task which is unrelated to both generation and  
15 retrieval of any data file specified in the request, as recited in the combination of  
16 claims 23 and 26. Accordingly, claim 26 is allowable over the Savitzky-Grate  
17 combination.  
18

19 **Claim 28** recites “receiving a request for a data file” and “determining that  
20 the request for the data file specifies a function..., execution of which performs a  
21 task which is unrelated to both generation and retrieval of any data file specified in  
22 the request”.

23 As described above in the response to the rejection of claim 23, Savitzky  
24 and/or Grate do not teach or suggest both a request for a data file *and*  
25 “determining that the request for the data file specifies a function..., execution of

1 which performs a task which is unrelated to both generation and retrieval of any  
2 data file specified in the request”, as recited in claim 28.

3 Accordingly, claim 28 is allowable over the Savitzky-Grate combination  
4 and Applicant respectfully requests that the §103 rejection be withdrawn.  
5

6 **Claims 29-32** are allowable by virtue of their dependency upon claim 28.  
7 Additionally, claim 31 is allowable over the Savitzky-Grate combination for  
8 independent reasons. Claim 31 recites that “returning the result data comprises  
9 generating a document which includes the result data, and sending the document  
10 to the second computer process.”

11 As described above in the response to the rejection of claim 26, neither  
12 Savitzky nor Grate teaches “generating a document which includes the result  
13 data”, and “sending the document to the second computer process”, as recited in  
14 claim 31. The document of Savitzky does not include the result data of a function,  
15 execution of which performs a task which is unrelated to both generation and  
16 retrieval of any data file specified in the request, as recited in the combination of  
17 claims 28 and 31. Accordingly, claim 31 is allowable over the Savitzky-Grate  
18 combination.  
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Respectfully Submitted,

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**Version of amended claims with markings to show changes made**

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3       **1. (Twice Amended)** A method for serving remote procedure calls  
4 from an applet which executes within an applet viewer which in turn executes in a  
5 computer system that is serving said remote procedure calls, the method  
6 comprising:

7           receiving from the applet which executes in the same computer system that  
8 serves said remote procedure calls, a request for a document according to a  
9 document retrieval protocol implemented on a computer network;

10           determining that the request specifies a function which is defined within a  
11 computer process executing independently of the applet and applet viewer and  
12 which includes one or more computer instructions, execution of which performs a  
13 task which is unrelated to both generation and retrieval of any document specified  
14 in the request; and

15           executing the function in the same computer system that is executing said  
16 applet and applet viewer to thereby cause execution of the one or more computer  
17 instructions in response to receipt of the request.  
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1           **6. (Twice Amended)** A computer readable medium useful in  
2 association with a computer system which includes a processor and a memory, the  
3 computer readable medium including computer instructions which are configured  
4 to cause the computer to serve remote procedure calls from an applet, which  
5 executes within an applet viewer which in turn executes in the computer system  
6 that is serving said remote procedure calls, by performing the steps of:

7           receiving from the applet which executes in the same computer system that  
8 serves said procedure calls, a request for a document according to a document  
9 retrieval protocol implemented on a computer network;

10           determining that the request specifies a function which is defined within a  
11 computer process executing independently of the applet and applet viewer and  
12 which includes one or more selected computer instructions, execution of which  
13 performs a task which is unrelated to both generation and retrieval of any  
14 document specified in the request; and

15           executing the function in the same computer system that is executing said  
16 applet and applet viewer to thereby cause execution of the one or more selected  
17 computer instructions in response to receipt of the request.  
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1        **11. (Three times Amended)** A computer system comprising:

2        a processor;

3        a memory operatively coupled to the processor; and

4        a computer process which executes in the processor from the memory and  
5        which, when executed, serves remote procedure calls received from an applet  
6        which executes within an applet viewer which in turn executes in the processor  
7        from the memory concurrently and independently from the computer process,  
8        wherein the computer process serves the remote procedure calls by performing the  
9        steps of:

10        receiving from the applet which executes in the same computer system that  
11        serves remote procedure calls, a request for a document according to a document  
12        retrieval protocol implemented on a computer network;

13        determining that the request specifies a function which is defined within the  
14        computer process and which includes one or more computer instructions,  
15        execution of which performs a task which is unrelated to both generation and  
16        retrieval of any document specified in the request; and

17        executing the function in the same computer system that is executing said  
18        applet and applet viewer to thereby cause execution of the one or more computer  
19        instructions in response to receipt of the request.



1           **23. (Amended)** A method for serving remote procedure calls received  
2 from an instruction set that executes within a first computer process, the first  
3 computer process executing in a computing device that serves the remote  
4 procedure calls, the method comprising:

5           receiving a request for a data file from the instruction set, the request  
6 according to a data file retrieval protocol;

7           determining that the request for the data file specifies a function which is  
8 defined within a second computer process executing in the computing device  
9 independently of the instruction set and of the first computer process, the function  
10 including one or more computer instructions, execution of which performs a task  
11 which is unrelated to both generation and retrieval of any data file specified in the  
12 request; and

13           executing the function in the computing device to execute the one or more  
14 computer instructions in response to receipt of the request.

1       **28. (Amended)** A computer system comprising:

2       a processor;

3       a memory operatively coupled to the processor; and

4       a first computer process configured to execute in the processor from the  
5       memory, the first computer process further configured to serve remote procedure  
6       calls received from an instruction set that executes within a second computer  
7       process, the second computer process configured to execute in the processor from  
8       the memory concurrently and independently of the first computer process, wherein  
9       the first computer process serves the remote procedure calls by:

10       receiving a request for a data file from the instruction set, the request  
11       according to a data file retrieval protocol;

12       determining that the request for the data file specifies a function which is  
13       defined within the first computer process, the function including one or more  
14       computer instructions, execution of which performs a task which is unrelated to  
15       both generation and retrieval of any data file specified in the request; and

16       executing the function in the computing device to execute the one or more  
17       computer instructions in response to receipt of the request.